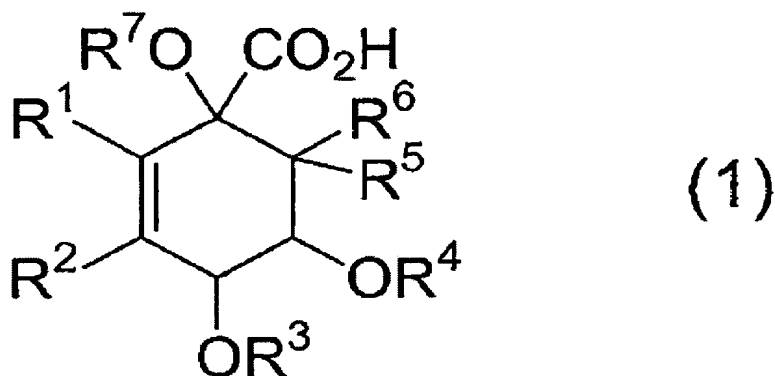


CLAIMS

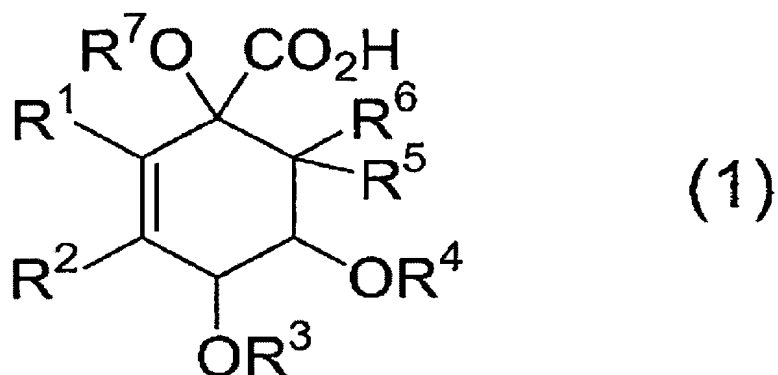
1.- Compounds of formula (1), characterized by:



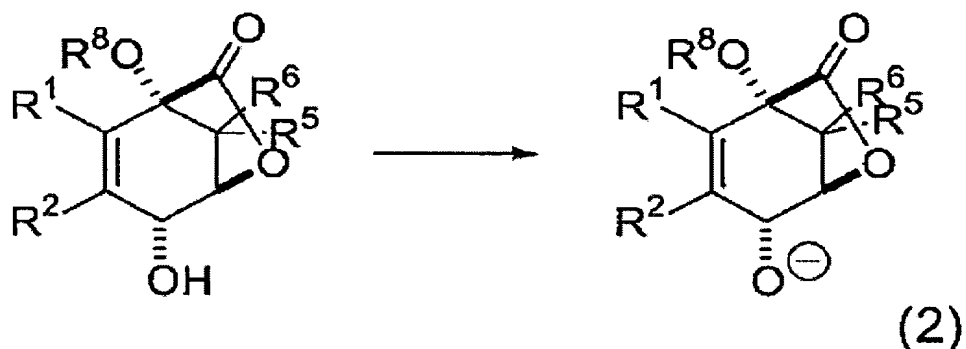
- R¹, R², R³, R⁴, R⁵, R⁶ and R⁷ can be a hydrogen atom, an acyloxy, alkyloxy, aryloxy, alkylthio, alkylamine, alkylnitro, alkylazido, alkylphosphate, alkylcarboxy, arylthio or alkyl group with C1-C10 chains or a benzyloxy group in which the aromatic ring can be substituted by one or several identical or different radicals, chosen from halogen, polyhalogenated alkyl, nitro, azido, amino, phosphate, carboxy, cyano, amide, thiol, thioester, guanidinium, thioether, alcohol, alkoxy or alkyl group with C1-C10 chains. The radicals can be linear or branched alkyl with 1-10 carbon atoms, alkenyl with 2 to 10 carbon atoms, alkynyl with 3 to 10 carbon atoms, cycloalkyl with 3 to 6 carbon atoms, cycloalkenyl with 4 to 6 carbon atoms, or bicycloalkyl with 7 to 10 carbon atoms; these radicals possibly being substituted by one or several identical or different substituents chosen from halogen atoms and hydroxy, amino, thiol, azido, nitro, phosphate and alkoxy radicals containing 1 to 4 carbon atoms, piperidinyl, morpholinyl, indole, furan, piperazinyl-1 (possibly substituted at -4 by an alkyl radical with 1 to 4 carbon atoms or by a phenylalkyl radical, the alkyl part of which contains 1 to 4 carbon atoms), cycloalkyl with 3 to 6 carbon atoms, cycloalkenyl with 4 to 6 carbon atoms, phenyl, cyano, nitro, carboxy, alkoxycarbonyl, halogen, amino or amide, the alkyl part of which contains 1 to 4 carbon atoms, or a phenyl radical, possibly substituted by one or several identical or different radicals, chosen from the alkyl radicals with 1 to 4 carbon atoms, halogenated or not, or alkoxy radicals with 1 to 4 carbon atoms, or halogen, nitro, azido, phosphate, amino, cyano, amide, thiol, thioester, guanidinium, thioether or alcohol groups, a saturated or unsaturated nitrogenous heterocyclic radical containing 1 to 4 carbon atoms, a saturated or unsaturated nitrogenous heterocyclic radical containing 5 or 6 members, possibly substituted by one or several alkyl radicals with 1 to 4 carbon atoms, understanding that the cycloalkyl, cycloalkenyl or bicycloalkyl radicals can possibly be substituted by one or several alky

radicals containing 1 to 4 carbon atoms.

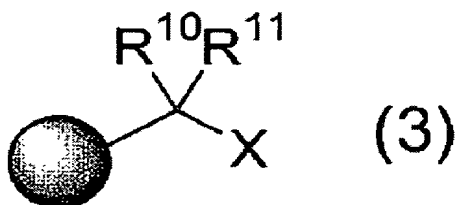
2.- A process (process 1) for preparing the compounds of formula (1), characterized, as the most important synthetic transformations, by the following steps:



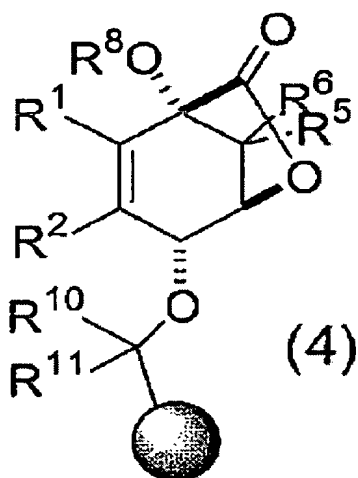
- 5 a) alkylation of the alkoxide carrying the cyclohexane ring of general formula (2),



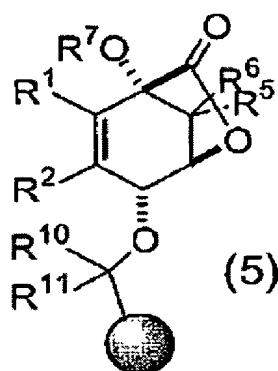
with electrophilic resins of general formula (3),



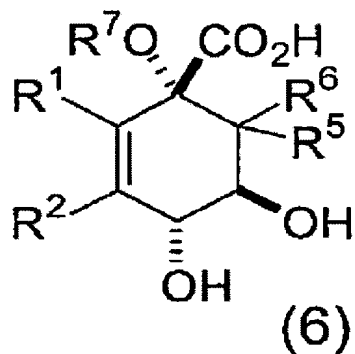
- 10 obtaining compounds of general formula (4) as a reaction product, wherein the R¹, R², R⁵, R⁶, R⁸, R¹⁰ and R¹¹ groups have the structural characteristics indicated in claim 1, and the X group can be a halogen, a sulfonate group, any other leaving group or a carbonyl group:



b) alkylation of the compounds of general formula (4) from the previous step a) in an inert solvent so as to obtain ethers of general formula (5),

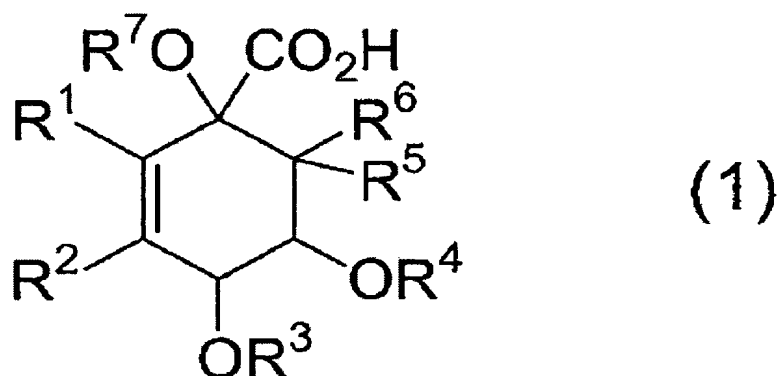


- 5 wherein the R^1 , R^2 , R^5 , R^6 , R^{10} and R^{11} groups have the characteristics described hereinbefore, and the R^7 group has the structural characteristics indicated in claim 1;
c) resin cleaving reaction followed by lactone hydrolysis, obtaining products of general formula (6),



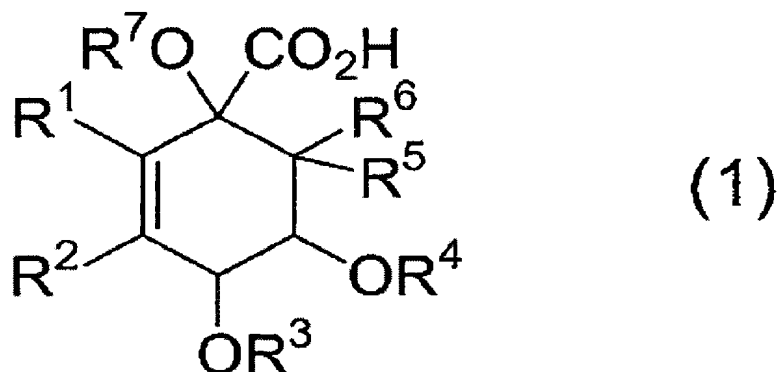
- 10 wherein the R^1 , R^2 , R^5 , R^6 and R^7 groups have the meaning hereinbefore given;
d) subsequent modifications of functional groups such as oxidations, reductions,

esterifications, alkylations, isomerizations, etc., to give the compounds of general formula (1)

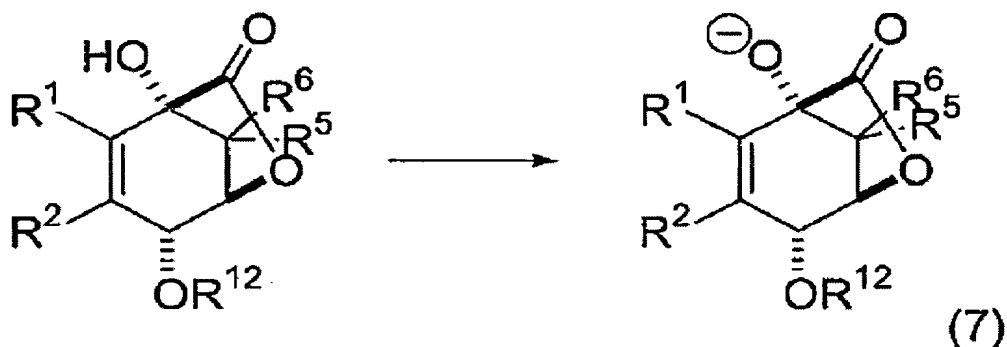


wherein the R¹, R², R³, R⁴, R⁵, R⁶ and R⁷ groups have the meaning previously given in claim 1.

3.- A process (process II) for preparing the compounds of formula (1), characterized, as the most important synthetic transformations, by the following steps:



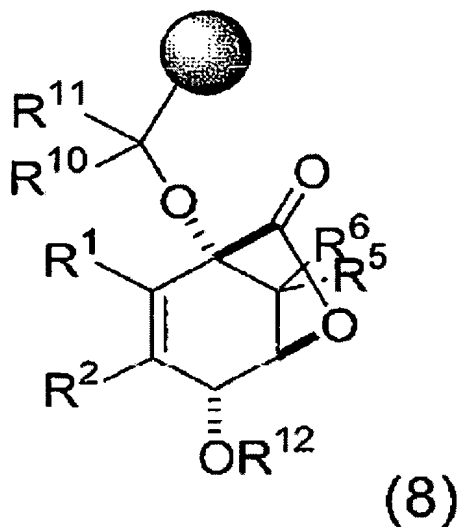
a) alkylation of the alkoxide carrying the cyclohexane ring of general formula (7),



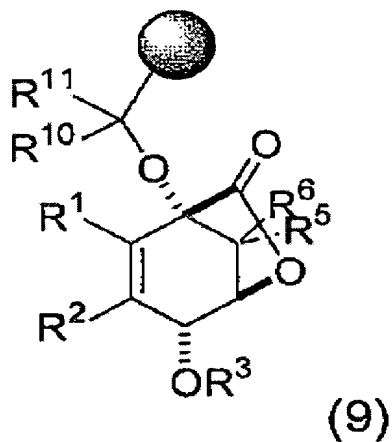
10

with electrophilic resins of general formula (3), previously described in claim 2, obtaining compounds of general formula (8) as a reaction product, wherein the R¹, R², R⁵, R⁶, R¹⁰, R¹¹ and R¹² groups have the structural characteristics indicated in claim 1,

and the X group has the characteristics indicated in claim 2:



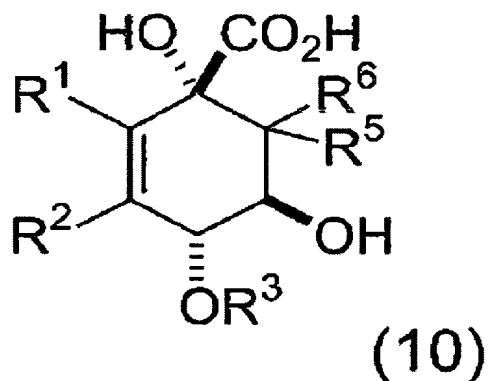
b) alkylation of the compounds of general formula (8) from the previous step a) in an inert solvent so as to obtain ethers of general formula (9),



5

wherein the R^1 , R^2 , R^5 , R^6 , R^{10} and R^{11} groups have the characteristics described hereinbefore, and the R^3 group has the structural characteristics indicated in claim 1;

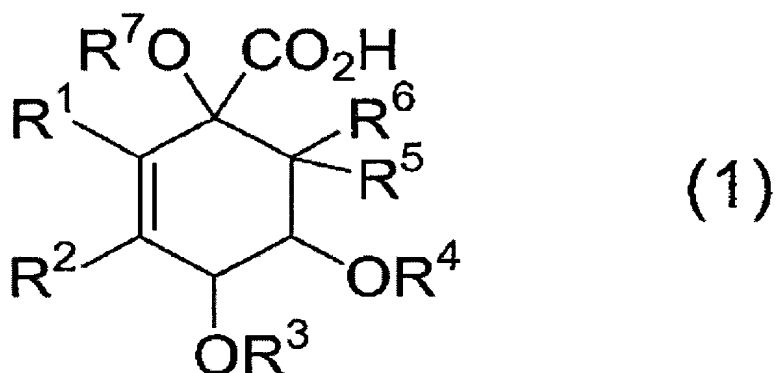
c) resin cleaving reaction followed by lactone hydrolysis, obtaining products of general formula (10),



wherein the R^1 , R^2 , R^3 , R^5 and R^6 groups have the meaning hereinbefore given;

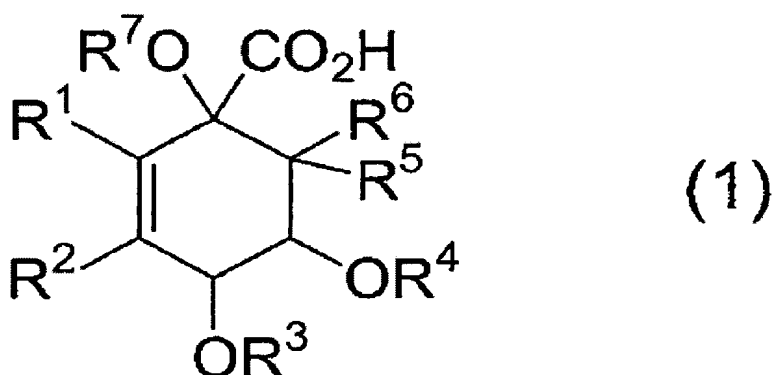
d) subsequent modifications of functional groups, such as oxidations, reductions, esterifications, alkylations, isomerizations, etc., to give the compounds of general

5 formula (1)



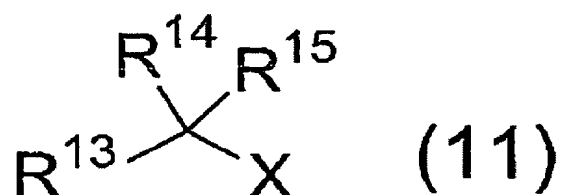
wherein the R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 groups have the meaning previously given in claim 1.

4.- A process (process III) for preparing the compounds of formula (1),
 10 characterized, as the most important transformations, by the following steps:

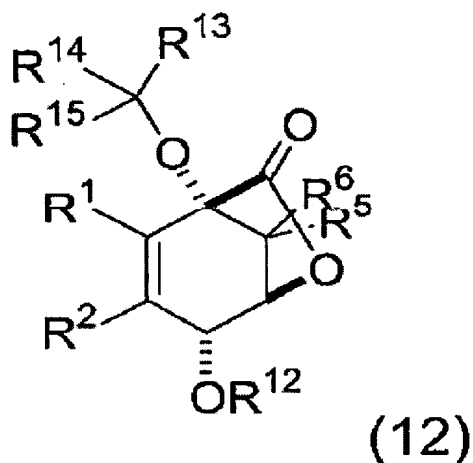


a) alkylation of the alkoxide carrying the cyclohexene ring of general formula (7),

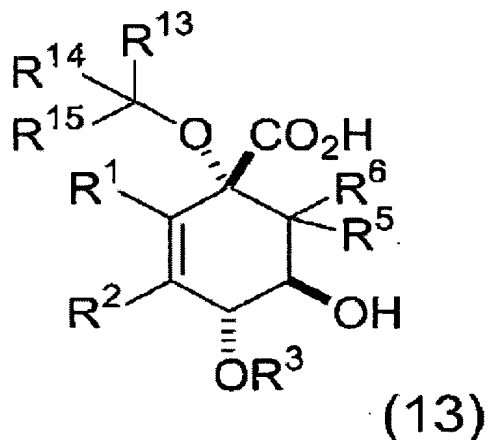
previously indicated in claim 3, with electrophiles of general formula (11),



- obtaining compounds of general formula (12) as a reaction product, wherein the R^1 , R^2 , R^5 , R^6 , R^{12} , R^{13} , R^{14} and R^{15} groups have the structural characteristics indicated in claim 1, and the X group can be a halogen, a sulfonate group, any other leaving group or a carbonyl group:
- 5

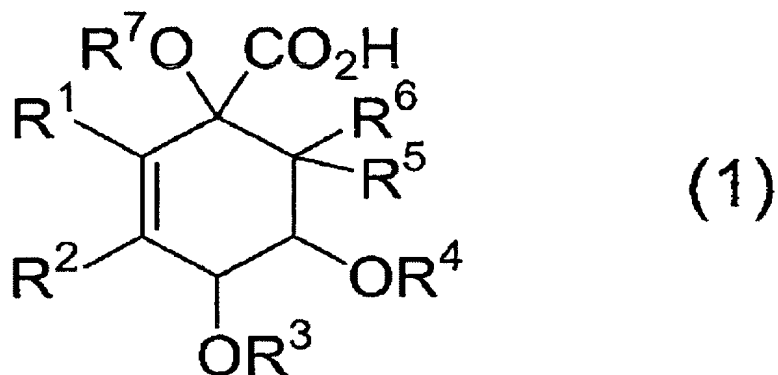


b) lactone hydrolysis reaction, obtaining products of general formula (13)



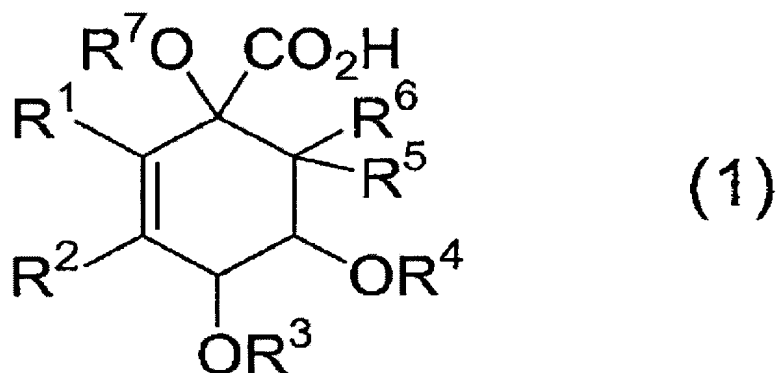
- 10 wherein the R^1 , R^2 , R^3 , R^5 , R^6 , R^{13} , R^{14} and R^{15} groups have the meaning hereinbefore given;
- c) subsequent modifications of functional groups, such as oxidations, reductions, esterifications, alkylations, isomerizations, etc., to give the compounds of general

formula (1)

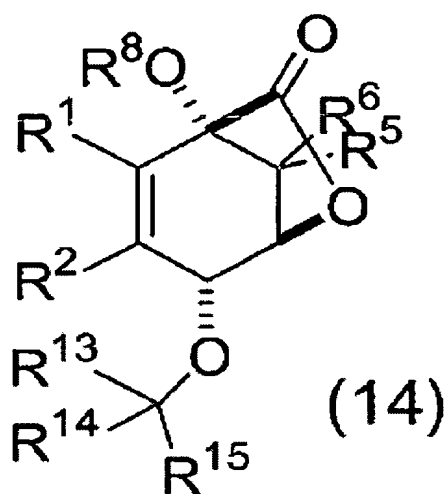


wherein the R¹, R², R³, R⁴, R⁵, R⁶ and R⁷ groups have the meaning previously given in claim 1.

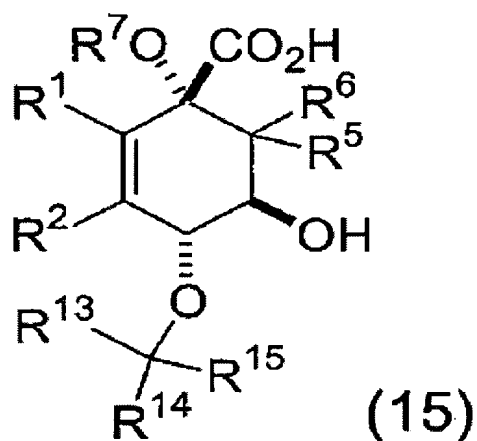
- 5 5.- A process (process IV) for preparing the compounds of formula (1), characterized, as the most important transformations, by the following steps:



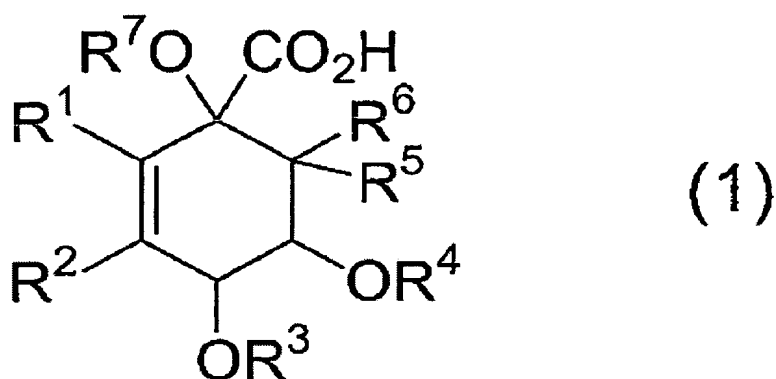
- 10 a) alkylation of the alkoxide carrying the cyclohexene ring of general formula (2) with electrophiles of general formula (11), previously indicated in claims 2 and 4, respectively, obtaining compounds of general formula (14) as a reaction product, wherein the R¹, R², R⁵, R⁶, R⁸, R¹³, R¹⁴ and R¹⁵ groups have the structural characteristics indicated in claim 1,



b) lactone hydrolysis reaction, obtaining products of general formula (15)



- 5 wherein the R¹, R², R⁵, R⁶, R⁷, R¹³, R¹⁴ and R¹⁵ groups have the meaning hereinbefore given;
- c) subsequent modifications of functional groups, such as oxidations, reductions, esterifications, alkylations, isomerizations, etc., to give the compounds of general formula (1)



wherein the R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 groups have the meaning previously given in claim 1.

5 6. A pharmaceutical composition characterized in that it contains a compound of claims 1, 2, 3, 4 and 5 as an active ingredient in a mixture with the suitable vehicle or carrier.

7.- Use of the compounds of general formula 1 in the production of an antitumor pharmaceutical composition.

10 8.- Use of the compounds of general formula 1 in the production of an antifungal pharmaceutical composition.

9.- Use of the compounds of general formula 1 in the production of an antimicrobial pharmaceutical composition.

10.- Use of the compounds of general formula 1 in the production of an antiviral pharmaceutical composition.

15 11.- Use of the compounds of general formula 1 in the production of an immunosuppressant pharmaceutical composition.

12.- Use of the compounds of general formula 1 in the production of an herbicidal composition.